

CLAIMS

1. A system for stabilizing high-temperature process tubes in a device utilizing high-temperature process tubes said system comprising surrounding a portion of said reactor tubes with at least one apparatus comprising at least two rods, having at least two spacers attached thereto, at least one rod retaining means on said rod wherein said rods and spacers are comprised of temperature-resistant material.
2. A system as defined in Claim 1 wherein said high temperature process tubes comprise reactor furnace tubes.
3. A system as defined in Claim 2 wherein said device is a pyrolysis furnace.
4. A system as defined in Claim 2 wherein said reactor furnace tubes are u-shaped.
5. A system as defined in Claim 2 wherein said reactor furnace tubes are serpentine.
6. A system as defined in Claim 2 wherein said reactor furnace tubes are bent or offset.
7. A system as defined in Claim 2 wherein said reactor furnace tubes are swaged.
8. A system as defined in Claim 2 wherein said reactor furnace tubes are straight vertical tubes.
9. A system as defined in Claim 1 wherein said apparatus is constructed of temperature-resistant, non-nickel-containing material.

10. A system as defined in Claim 1 wherein at least one said process tube is constructed of temperature-resistant, non-nickel-containing material.
11. A system as defined in Claim 9 wherein said apparatus is constructed of ceramic material, an oxide dispersion strengthened ferrous alloy or any combination thereof.
12. A system as defined in Claim 11 wherein said ceramic material is selected from the group consisting of alpha silicon carbide, reactor bonded silicon carbide, silicon nitride, alumina, alumina/silicon carbide composites and composites based on silicon carbide.
13. A system as defined in Claim 11 wherein said ceramic material comprises a direct sintered silicon-carbide.
14. A system as defined in Claim 11 wherein said oxide dispersion strengthened ferrous alloy comprises a rare earth oxide dispersion strengthened ferrous alloy which contains from about 17 % to about 26 % of Cr by weight and about 2 % to about 6 % of Al by weight.
15. An apparatus for stabilizing reactor furnace tubes in a device utilizing reactor furnace tubes said apparatus comprising at least two rods, having at least two spacers attached thereto, and at least one means for retaining said spacers on said rods wherein said rods, spacers and retaining means are comprised of temperature-resistant materials.
16. An apparatus as defined in Claim 15 wherein said apparatus is constructed of temperature-resistant, non-nickel-containing material.

17. An apparatus as defined in Claim 15 wherein said apparatus is constructed of ceramic material, an oxide dispersion strengthened ferrous alloy or any combination thereof.

18. An apparatus as defined in Claim 17 wherein said ceramic material is selected from the group consisting of alpha silicon carbide, reaction bonded silicon carbide, silicon nitride, alumina, alumina/silicon carbide composites and composites based on silicon carbide.

19. An apparatus as defined in Claim 17 wherein said ceramic material comprises a direct sintered silicon-carbide.

20. An apparatus as defined in Claim 17 wherein said oxide dispersion strengthened ferrous alloy comprises a rare earth oxide dispersion strengthened ferrous alloy which contains from about 17 % to about 26 % of Cr by weight and about 2 % to about 6 % of Al by weight.